

## **ABSTRACT**

### *Purpose*

We investigated the difference between measured and manufacturer's stated source strength in a single model STM1251  $^{125}\text{I}$  seeds.

### *Materials and methods*

A well-type ionization chamber with a single seed holder was used to measure source strength of 2412  $^{125}\text{I}$  seeds before implant for 34 patients. The air kerma strength was only used 0.279 U for all cases. The mean source strength used for each patient was compared with the manufacture stated value. The deviation from the measured value was compared with the tolerance level of the recommendation of AAPM TG-40.

### *Results*

Measured source strength was higher than the manufacture stated value with median 1 % (range: -2 to 5 %). Sixteen seeds of all 2412 seeds (0.7 %) were over 5 % different from the manufacture stated value. Standard deviation from the mean value was median 2.2 % (range: 1.1 to 2.5 %) in each patient.

### *Conclusion*

A single seed assay was performed for the model STM1251 seed. The manufacture stated strength of the  $^{125}\text{I}$  seeds agreed well with the measured value. Our study was helpful as guidance for the permanent prostate implant using the model STM1251 seed.